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- 4 depositing a cladding material into the hole, the cladding material  
5 substantially lining an interior surface of the hole; and  
6 depositing an optical core material into the hole.

1 2. The method of claim 1 further comprising:

2 forming a lens on top of the optical core material.

1 3. The method of claim 2 further comprising:

2 depositing a polymer on top of the optical core material; and

3 curing the polymer to form a lens.

1 4. The method of claim 1 further comprising:

2 polishing the substrate.

1 16. The method of claim 1, wherein making the hole in the substrate is

2 achieved by etching.

1 17. The method of claim 16, further comprising:

2 forming a lens on top of the optical core material.

1 18. The method of claim 17, further comprising:

2 depositing a polymer on top of the optical core material; and

3 curing the polymer to form the lens.

- 1           19. The method of claim 18, further comprising:  
2           polishing the substrate before forming the lens.
- 1           20. The method of claim 16, wherein the depositing the cladding material into  
2           the hole is achieved by depositing an oxide into the hole.
- 1           21. The method of claim 20, wherein the depositing the optical core material  
2           in the hole is achieved by depositing a first polymer in the hole.
- 1           22. The method of claim 21 further comprising:  
2           depositing a second polymer over the first polymer; and  
3           curing the second polymer to form a lens on top of the optical core  
4           material.
- 1           23. (Withdrawn) A substrate comprising:  
2           a hole extending from a first side of the substrate to a second side of the  
3           substrate;  
4           a deposition layer of cladding on an inner surface of the hole; and  
5           a deposition layer of optical core material encased by the deposition layer  
6           of cladding.

1           24. (Withdrawn) The substrate of claim 23, wherein the optical core material  
2           is a polymer.

1           25. (Withdrawn) The substrate of claim 24 further comprising:  
2           a polymer lens formed on one end of the deposition layer of cladding and  
3           the deposition layer of optical core material.